

WHAT IS CLAIMED IS:

1. A driving force control system for a hybrid vehicle, comprising:

an engine,

5 a primary electric motor, and

a secondary electric motor, wherein

either front wheels or rear wheels are driven by the engine and the primary electric motor and the other of the front wheels and rear wheels are driven by the secondary electric motor,

10 and

in performing a regeneration of deceleration energy when braking, a regeneration capacity of the primary electric motor and a regeneration capacity of the secondary electric motor are calculated, respectively, so that the regeneration is performed with either of the electric motors which can provides a larger generation capacity.

2. The driving force control system for a hybrid vehicle as set forth in Claim 1, wherein

20 an efficiency of a transmission connected to the primary electric motor and a transmission loss experienced by a rear differential are taken into consideration when calculating a regeneration capacity of the primary electric motor, and

an efficiency of the rear differential connected to the secondary electric motor and a transmission loss experienced

by the transmission are taken into consideration when calculating a regeneration capacity of the secondary electric motor.

5     3.     The driving force control system for a hybrid vehicle as set forth in Claim 1, further comprising:

        a clutch for bringing the engine and the primary electric motor into engagement with and disengagement from the wheels, wherein

10           when the engine and the primary electric motor are in disengagement from the wheels by the clutch, the regeneration is performed by the secondary electric motor.

        4.     The driving force control system for a hybrid vehicle as set forth in Claim 3, wherein

        the clutch is a starter clutch of the transmission.

        5.     The driving force control system for a hybrid vehicle as set forth in Claim 1, wherein

20           when a slippage of the wheels is detected, the regeneration in the primary electric motor and the secondary electric motor is prohibited.

6. A driving force control system for a hybrid vehicle comprising:

an engine,

a primary electric motor provided on a front wheel side  
5 of the vehicle,

a transmission for transmitting driving force of the engine and the primary electric motor to front wheels of the vehicle,

a secondary electric motor provided on a rear wheel side  
10 of the vehicle,

a rear differential for connecting the secondary electric motor to rear wheels of the vehicle,

regeneration possibility determination means for determining whether or not a regeneration in the primary electric  
15 motor and the secondary electric motor is possible,

regeneration capability calculation means for calculating a regeneration capability of the primary electric motor and the secondary electric motor,

regeneration capability comparing means for comparing  
20 the regeneration capability of the primary electric motor with the regeneration capability of the secondary electric motor, and

regeneration executing means for making either of the electric motors which can provide a larger regeneration  
25 capability execute a regeneration.